

Work Order ID 162776

Monday, June 12, 2017 1:35:40 PM

Ship 28 June

162776 S/o 131240

Page 1

Item ID: 647.3701

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/23/2017

Req'd Qty: 1.00

1

Customer:

Reference:

DAS

21

Approvals:

Process Plan:

9-89

Date: JUN 12 2017

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr	Revision Nbr
647.3700	NC3

DAS

6

9-89

JUN 21 2017

100

Document Control

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP 647.3701

DAS

27

9-89

JUN 28 2017

110

Pick Kit

110

Packaging

Memo

0.00

Packaging

DAS JUN 26 2017

6

9-89

DAS

28

9-89

120

QC4- 100% Inspect kits for completeness

120

QC

Memo

0.00

Quality Control

DAS

27

9-89

JUN 28 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

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Page 2

JUN 27 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : ☐					

Picklist Print

Monday, June 12, 2017 1:35:43 PM

Page 1

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM IPP
REV:B 15.01.26 as per ecr 14-214 DD VERF:JLM
IPP REV:C AS PER REV NC3 15.03.18 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
601.3082 *601 3082* RIVET CR3212-4-1 DAS 27 9-89		Purchased	No			110	Each	0.0000	6	6		JUN 26 2017	DAS 6 28 9-89
647.3903 *647 3903* Deflector Assembly DAS 27 9-89		Manufactured	No			110	Each	1.0000	1	1		JUN 26 2017	DAS 6 28 9-89
Location Loc Qty Loc Code													
					cck016		1						
					159434		1		3/10/2018	162775			
647.3801 *647 3801* 412 Upper Cutter Assembly DAS 27 9-89		Manufactured	No			110	Each	1.0000	1	1		JUN 26 2017	DAS 6 28 9-89
Location Loc Qty Loc Code													
					CCK028		1						
					158199		1		3/10/2018	162773			
647.3803 *647 3803* Lower Cutter Assembly DAS 27 9-89		Manufactured	No			110	Each	2.0000	1	1		JUN 26 2017	DAS 6 28 9-89
Location Loc Qty Loc Code													
					cck029		2						
					145480		2			1			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

647.4410
647 4410
Rail

Manufactured No

110 Each 15.0000 1 1

**

DAS

JUN 26 2017

DAS
28
9-89

Location

Loc Qty

Loc Code

CCK081

15

155358

15

647.4010
647 4010
Wiper Deflector RH

Manufactured No

110 Each 21.0000 1 1

**

DAS

JUN 26 2017

DAS
28
9-89

Location

Loc Qty

Loc Code

cck060

21

120740

1

158472

20

647.4011
647 4011
Wiper Deflector LH

Manufactured No

110 Each 9.0000 1 1

**

DAS

JUN 26 2017

DAS
28
9-89

Location

Loc Qty

Loc Code

CCK051

9

155433

9

647.4110
647 4110
Doubler

Manufactured No

110 Each 3.0000 1 1

**

DAS

JUN 26 2017

DAS
28
9-89

Location

Loc Qty

Loc Code

CCK080

3

154910

3

647.4111
647 4111
Doubler

Manufactured No

110 Each 0.0000 1 1

**

DAS

6

JUN 26 2017

DAS
28
9-89

DAS
27
9-89

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Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																													
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Picklist Print

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

647.4112 Manufactured No

110 Each 5.0000

647 4112

Clip

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK112

5

154921

5

110 Each 6.0000

**

DAS
6
9-89

JUN 26 2017

DAS
28
9-89

647.4113 Manufactured No

647 4113

Clip

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK112

6

154922

6

110 Each 6.0000

**

DAS
6
9-89

JUN 26 2017

DAS
28
9-89

647.4114 Manufactured No

647 4114

Shim

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK112

6

120746

1

158414

5

110 Each 6.0000

**

DAS
6
9-89

JUN 26 2017

DAS
28
9-89

647.4115 Manufactured No

647 4115

Shim

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK112

6

154293

1

158416

5

110 Each 6.0000

**

DAS
6
9-89

JUN 26 2017

DAS
28
9-89

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Shop Packet Print

Page 3

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
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Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

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Page 4

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

647.4116
647 4116
Shim

DAS
27
9-89

Manufactured No

110 Each 14.0000 1

**

JUN 26 2017
DAS
28
9-89

Location

Loc Qty

Loc Code

CCK112

14

121064

2

158848

12

647.4210
647 4210
Bracket LH

DAS
27
9-89

Manufactured No

110 Each 4.0000 1

**

JUN 26 2017
DAS
28
9-89

Location

Loc Qty

Loc Code

CCK112

4

155375

4

647.4211
647 4211
Bracket RH

DAS
27
9-89

Manufactured No

110 Each 4.0000 1

**

JUN 26 2017
DAS
28
9-89

Location

Loc Qty

Loc Code

CCK112

4

155386

4

647.4311
647 4311
RH Lower Strut

DAS
27
9-89

Manufactured No

110 Each 3.0000 1

**

JUN 26 2017
DAS
28
9-89

Location

Loc Qty

Loc Code

CCK073

3

154294

3

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : _____							

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Page 5

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

647.4310 Manufactured No

110 Each 13.0000

1

JUN 26 2017

DAS

647 4310

LH Lower Strut

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK072

13

158229

13

647.4312 Manufactured No

110 Each 5.0000

1

JUN 26 2017

DAS

647 4312

LH Upper Strut

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK074

5

154503

5

647.4313 Manufactured No

110 Each 13.0000

1

JUN 26 2017

DAS

647 4313

RH Upper Strut

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK075

13

154502

5

158436

8

NAS1149FN832P Purchased No

110 Each 1,755.000

34 34

JUN 26 2017

DAS

NAS1149FN832P

Washer

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

358

M135058

208

M136182

40

M136866

110

ST263

1397

M137412

1397

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date: _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0332P

Purchased

No

110

Each

3,406.000

157

157

NAS1149F0332P

Washer

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

275

m133709

275

ST260a

2000

m137710

2000

ST262

1131

m137412

1131

MS27039-1-07

Purchased

No

110

Each

93.0000

12

12

MS27039-1-07

Screw

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

68

m137736

68

ST281

25

m137736

25

MS27039-1-10

Purchased

No

110

Each

635.0000

42

42

MS27039-1-10

SCREW

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

15

m129541

15

over006

450

m137597

300

m137736

150

ST280

170

m137164

170

JUN 26 2017

JUN 26 2017

JUN 26 2017

DAS
6
9-89

DAS
28
9-89

DAS
6
9-89

DAS
28
9-89

DAS
6
9-89

DAS
28
9-89

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

MS27039-08-08

Purchased

No

110

Each

151.0000

16

16

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

MS27039-08-08

Screw

DAS

27

9-89

Location

Loc Qty

Loc Code

ST278

151

m130325

151

MS27039-1-09

Purchased

No

110

Each

223.0000

14

14

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

MS27039-1-09

Screw

Location

Loc Qty

Loc Code

FP001

17

18057

17

GA

18

124859

18

ST280

188

m137544

188

MS27039-08-11

Purchased

No

110

Each

272.0000

2

2

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

MS27039-08-11

SCREW

DAS

27

9-89

Location

Loc Qty

Loc Code

ST278

272

m135864

22

m137412

250

MS24694-S49

Purchased

No

110

Each

164.0000

1

1

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

MS24694-S49

Screw

DAS

27

9-89

Location

Loc Qty

Loc Code

over006

100

m129499

100

ST284

64

m129702

64

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

MS24694-C53

Purchased

No

110

Each

38.0000

8

8

DAS

6

9-89

DAS

28

9-89

MS24694-C53

Screw

DAS

27

9-89

Location

Loc Qty

Loc Code

ST285

38

m136444

38

601.3073

Purchased

No

110

Each

0.0000

1

1

601 3073

Connector p/n 082-4241

AN3-4A

DAS

27

9-89

AN3-4A

Bolt

Purchased

No

110

Each

305.0000

3

3

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

DAS

27

9-89

Location

Loc Qty

Loc Code

ST350

305

m137478

305

AN3-11A

Purchased

No

110

Each

220.0000

8

8

AN3-11A

Bolt

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

DAS

27

9-89

Location

Loc Qty

Loc Code

over003

100

m136192

100

ST349

120

153855

120

AN3C10A

Purchased

No

110

Each

22.0000

2

2

AN3C10A

Bolt

DAS

6

9-89

DAS

28

9-89

DAS

27

9-89

Location

Loc Qty

Loc Code

ST349

22

m136983

2

m137321

20

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-2

Purchased

No

110

Each

83.0000

6

6

CR3212-4-2

Cherry Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

ST320

83

m137164

83

CR3212-4-3

Purchased

No

110

Each

241.0000

17

17

CR3212-4-3

Cherry Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK003

200

m136741

200

ST320

41

m135408

41

CR3212-4-4

CR3212-4-04

Purchased

No

110

Each

0.0000

4

4

CR3212-4-4

CHERRY RIVET

DAS
27
9-89

CCR264SS3-04

Purchased

No

110

Each

229.0000

12

12

CCR264SS3-04

Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

ST321

229

123785

29

m137391

100

m137736

100

**

**

**

**

JUN 26 2017

JUN 26 2017

JUN 26 2017

JUN 26 2017

DAS

6

9-89

DAS

28

9-89

DAS

6

9-89

DAS

28

9-89

DAS

6

9-89

DAS

28

9-89

DAS

6

9-89

DAS

28

9-89

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DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date: _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

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Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

CCR264SS-3-03

Purchased

No

110

Each

141.0000

16

16

CCR264SS-3-03

Cherry Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001

10

m137164

10

LG001

13

m134023

13

ST321

118

m137164

118

CR3213-4-2

Purchased

No

110

Each

268.0000

13

13

CR3213-4-2

Cherry Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK003

200

m137710

100

m137621

100

ST320

68

m137412

68

CR3213-4-3

Purchased

No

110

Each

246.0000

32

32

CR3213-4-3

Rivet, Cherry

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

92

m136042

92

ST319

154

m136851

154

DAS
28
9-89
JUN 26 2017
9-89

DAS
28
9-89
JUN 26 2017
9-89

DAS
28
9-89
JUN 26 2017
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date: _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Monday, June 12, 2017 1:35:44 PM

Page 11

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

CR3213-4-4 Purchased No

110 Each 408.0000 19 19

CR3213-4-4

Rivet, Cherry

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK003

300

m137391

200

m137736

100

ST319

108

m136301

108

**

JUN 26 2017

DAS
6
9-89

DAS
28
9-89

CR3213-4-5 Purchased No

110 Each 202.0000 42 42

CR3213-4-5

Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

CCK003

200

M137459

200

ST319

2

M137361

2

**

JUN 26 2017

DAS
6
9-89

DAS
28
9-89

CR3213-4-8 Purchased No

110 Each 91.0000 4 4

CR3213-4-8

Rivet

DAS
27
9-89

Location

Loc Qty

Loc Code

ST319

91

m136983

91

**

JUN 26 2017

DAS
6
9-8

DAS
28
9-89

MS21042-3 Purchased No

110 Each 0.0000 79 79

MS21042-3

Nut

DAS
27
9-89

Location

Loc Qty

Loc Code

ST319

91

m136983

91

**

JUN 26 2017

DAS
6
9-89

DAS
28
9-89

MS21042-08 Purchased No

110 Each 0.0000 18 18

MS21042-08

USE MS21042L08

DAS
27
9-89

Location

Loc Qty

Loc Code

ST319

91

m136983

91

**

JUN 26 2017

DAS
6
9-89

DAS
28
9-89

Monday, June 12, 2017 1:35:44 PM

Shop Packet Print

Page 11

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, June 12, 2017 1:35:44 PM

Page 12

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

MS21047L06

Purchased No

110 Each

39.0000

6 6

MS21047L06

Nut Plate

DAS
27
9-89

Location

Loc Qty

Loc Code

ST301

39

m137166

39

MS21047L08

Purchased No

110 Each

31.0000

6 6

MS21047L08

Nut Plate

DAS
27
9-89

Location

Loc Qty

Loc Code

ST301

31

m136406

6

m137613

25

MS21047-3

Purchased No

110 Each

261.0000

4 4

MS21047-3

Nut Plate

DAS
27
9-89

Location

Loc Qty

Loc Code

ST301

261

m137075

11

m137459

150

m137710

100

MS21071L3

Purchased No

110 Each

76.0000

4 4

MS21071L3

ANCHOR NUT

DAS
27
9-89

Location

Loc Qty

Loc Code

S299

50

m137680

50

ST299

26

125654

26

Monday, June 12, 2017 1:35:44 PM

Shop Packet Print

Page 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date: _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

Picklist Print

Monday, June 12, 2017 1:35:44 PM

Page 13

Work Order ID: 162776

162776

Parent Item: 647.3701

647 3701

Parent Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017

Required Date: 6/23/2017

Start Qty: 1.00

Required Qty: 1.00

601.3083 Manufactured No

110 Each 4.0000 1

601 3083

Adhesive Rubber Seal

DAS
27
9-89

Location

Loc Qty

Loc Code

cck009

4

159136

4

600.1012 Purchased No

110 Each 28.0000 1

600 1012

Sealant PR1425B2 (#654 sem)

DAS
27
9-89

12/2017

Location

Loc Qty

Loc Code

cck017

28

m136838

1

m137371

13

m137699

14

601.2045 Purchased No

110 Each 25.0000 1

601 2045

RTV (LOCTITE 598) McMaster p/n: 6641A41

DAS
27
9-89

4/2019

Location

Loc Qty

Loc Code

CCK096

7

m137538

7

CCK108A

10

m137538

10

GA

8

m134260

8

**

**

**

JUN 26 2017 6
9-89 DAS 28
9-89

JUN 26 2017 6
9-89 DAS 28
9-89

JUN 26 2017 6
9-89 DAS 28
9-89

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date: _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition																					
								Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																				
OTHER : _____																									



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

04881

SHEET 1 OF 1

DWG NO. 647.3700

REV: N/C

PREPARED BY J. BECKER

DATE: 02/26/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY: ENGR *[Signature]*

MFG. *[Signature]*

QC *[Signature]*

EFF. NEXT ORDER

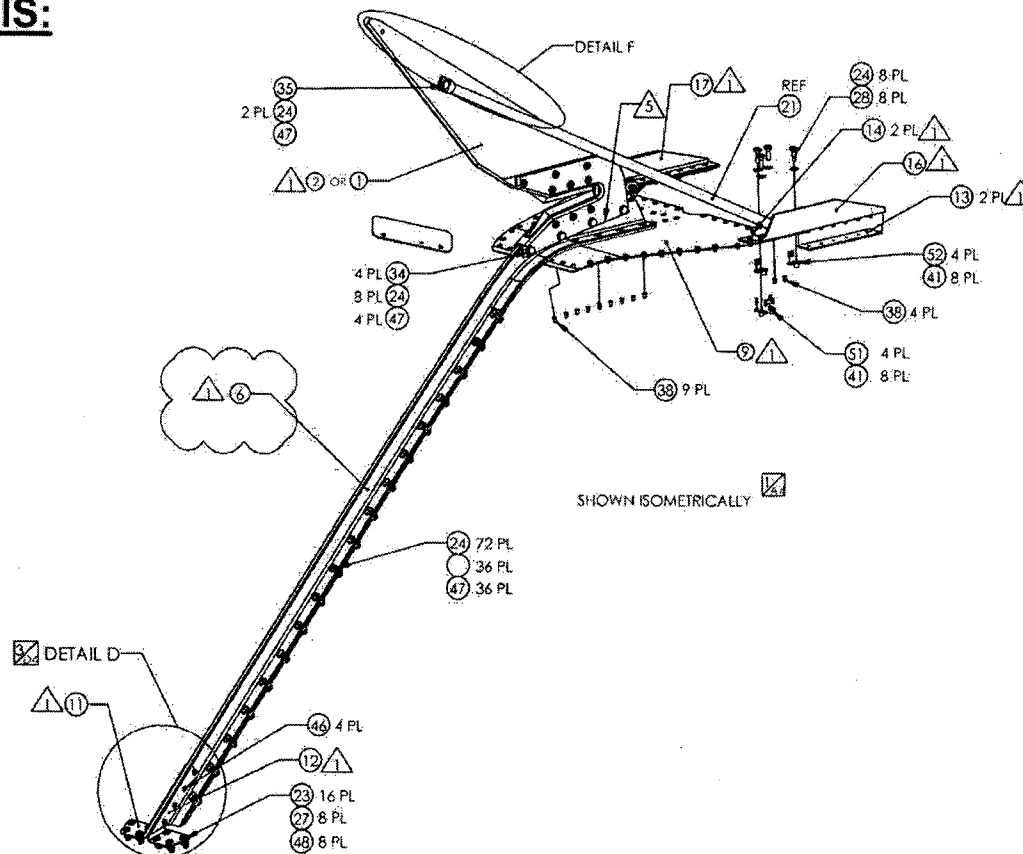
TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: DELETED F/N 57, REVISED F/N 6.

ECR: N/A

ACTION ITEM:
1.

SHEET 1, ZONE C5 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 162776 MJS
1706-12

57	D	647.3916	1	1	1	1	DEFLECTOR UPPER HALF				
6	R	647.3903	1	1	1	1	DEFLECTOR ASSEMBLY				
F/N	TC	PART NUMBER	3704	3703	3702	3701	DESCRIPTION	MATERIAL	SPECIFICATION		
			QTY								
DOCUMENTS EFFECTED:								CHANGE CATEGORY	DER REVIEW REQUIRED		
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM								☐ MAJOR ☒ MINOR	☐ YES ☒ NO		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐																																																																



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

04845

SHEET 1 OF 1

DWG NO. 647.3700

REV: N/C

PREPARED BY

J. BECKER

DATE: 02/11/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

QC

EFF.

NEXT ORDER

TRANSACTION CODES (TC):

A-ADD.
R-REVISE

C-CREATE
D-DELETE

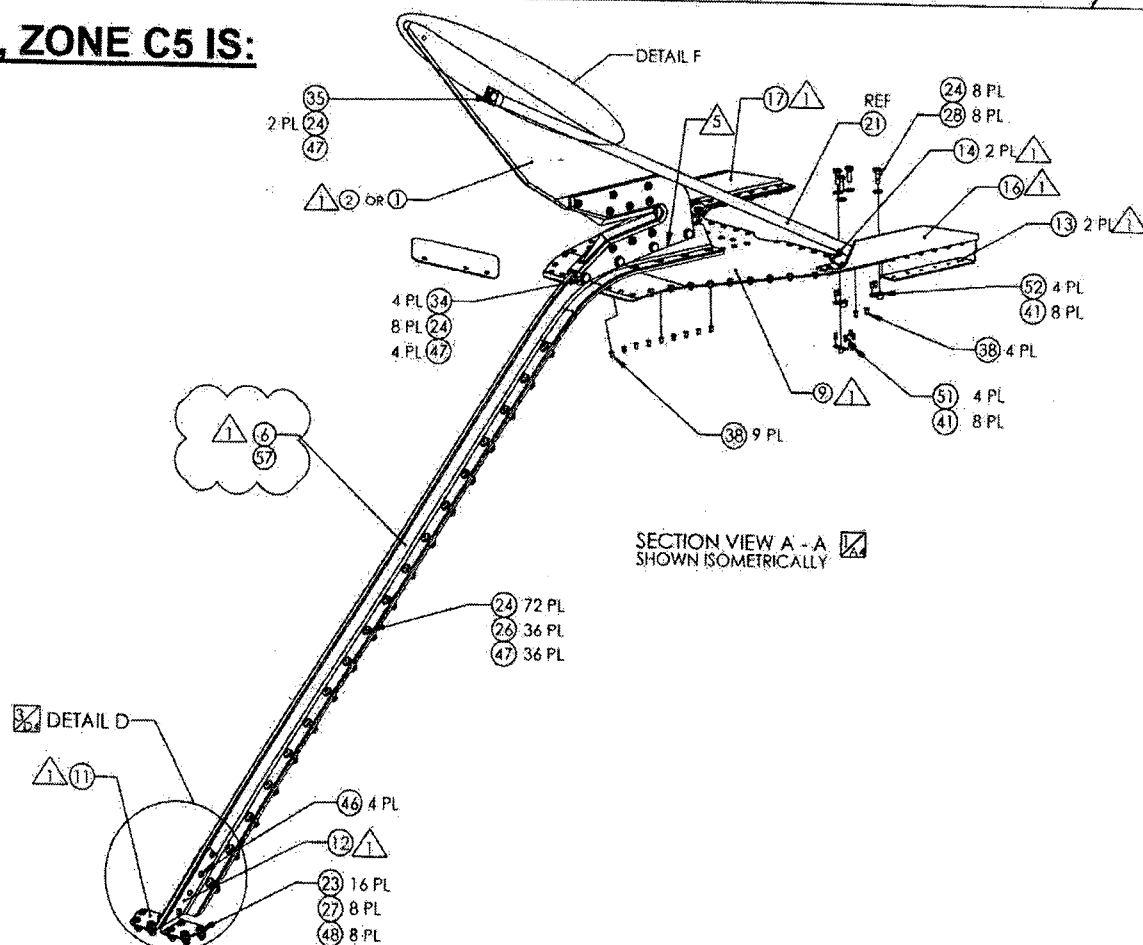
REASON: ADDED F/N 57

ECR:

ACTION ITEM:

1.

SHEET 1, ZONE C5 IS:



SECTION VIEW A-A
SHOWN ISOMETRICALLY

57	A	647.3916	1	1	1	1	DEFLECTOR UPPER HALF						
F/N	TC	PART NUMBER	3704	3703	3702	3701	DESCRIPTION				MATERIAL		SPECIFICATION
DOCUMENTS EFFECTED:			QTY										
			☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM				CHANGE CATEGORY		DER REVIEW REQUIRED				
							☐ MAJOR ☒ MINOR		☐ YES ☒ NO				

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER :						
Misidentified ☐	☐	Past Due ☐							

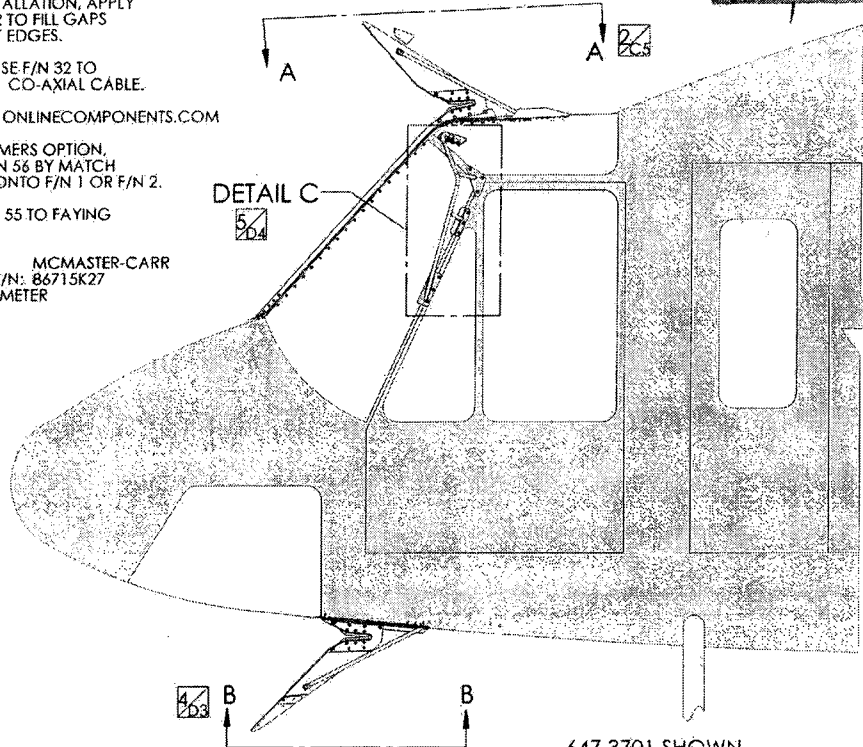
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UNINCORPORATED ECN(S)

01728, 04845, 04881

NOTES:

- 1 AFTER INSTALLATION, APPLY F/N 54 A/R TO FILL GAPS AND FILLET EDGES.
- 2 IF REQD. USE F/N 32 TO CONNECT CO-AXIAL CABLE.
- 3 VENDOR : ONLINECOMPONENTS.COM
- 4 AT CUSTOMERS OPTION, INSTALL F/N 56 BY MATCH DRILLING ONTO F/N 1 OR F/N 2.
- 5 APPLY F/N 55 TO FAYING SURFACES.
- 6 VENDOR : MCMMASTER-CARR
VENDOR P/N: 86715K27
60A DUROMETER



647.3701 SHOWN

REF.	REF.	REF.	REF.	56	647.3701	GPS MOUNT KIT	
A/R	A/R	A/R	A/R	55	601.2045	RTV	LOCITE 998
A/R	A/R	A/R	A/R	54	601.1012	SEALANT	PR-1225
1	1	1	1	53	601.3083	ADHESIVE RUBBER SEAL	CLASS B
4	4	4	4	52	601.2957	NUTPLATE	ML-R-3045
4	4	4	4	51	600.0795	NUTPLATE	MS21071L3
6	6	6	6	50	601.3066	NUTPLATE	MS21047-3
6	6	6	6	49	601.3065	NUTPLATE	MS21047L00
18	18	18	18	48	601.2973	LOCKNUT	MS21047L06
79	79	79	79	47	601.2943	LOCKNUT	MS21042-3
4	4	4	4	46	601.2364	CHERRY RIVET	CR3213-4-6
28	28	42	42	45	601.1183	CHERRY RIVET	CR3219-4-3
16	16	19	19	44	601.1915	CHERRY RIVET	CR3213-4-4
24	24	32	32	43	601.0790	CHERRY RIVET	CR3219-3-3
31	31	13	13	42	601.1039	CHERRY RIVET	CR3219-4-2
3704	3703	3702	3701	FIND #	PART #	DESCRIPTION	MATL SPEC.

16	16	16	16	41	601.2207	NUTPLATE RIVET	CCR26455-3-03
12	12	12	12	40	601.2491	NUTPLATE RIVET	CCR26455-3-04
7	7	4	4	39	601.1066	CHERRY RIVET	CR3212-4-4
17	17	17	17	38	601.1065	CHERRY RIVET	CR3212-4-3
5	5	6	6	37	601.1604	CHERRY RIVET	CR3212-4-2
6	6	6	6	36	601.3082	CHERRY RIVET	CR3212-4-1
2	2	2	2	35	601.1674	BOLT	AN3C10A
8	8	8	8	34	601.2826	BOLT	AN3-11A
3	3	3	3	33	601.2823	BOLT	AN3-4A
1	1	1	1	32	601.3073	CONNECTOR	D62-4400
8	8	8	8	31	601.2419	SCREW	MS2464MC53
1	1	1	1	30	601.3070	SCREW	MS2469A-549
2	2	2	2	29	601.2893	SCREW	MS2703P-0811
14	14	14	14	28	601.3069	SCREW	MS2703P-1-09
16	16	16	16	27	601.2263	SCREW	MS2703P-0808
42	42	42	42	26	601.1365	SCREW	MS2703P-1-10
12	12	12	12	25	601.2198	SCREW	MS2703P-1-07
157	157	157	157	24	601.1607	WASHER	NAS1149F0332P
34	34	34	34	23	601.2764	WASHER	NAS1149F0332P
1	1	1	1	22	647.4313	RH UPPER STRUT	
1	1	1	1	21	647.4312	LH UPPER STRUT	
1	1	1	1	20	647.4310	LH LOWER STRUT	
1	1	1	1	19	647.4311	RH LOWER STRUT	
1	1	1	1	18	647.4212	PLATE	
1	1	1	1	17	647.4211	BRACKET RH	
1	1	1	1	16	647.4210	BRACKET LH	
1	1	1	1	15	647.4116	SHIM	
2	2	2	2	14	647.4115	SHIM	
2	2	2	2	13	647.4114	SHIM	
1	1	1	1	12	647.4113	CLIP	
1	1	1	1	11	647.4112	CLIP	
1	1	1	1	10	647.4111	DOUBLER	
1	1	1	1	9	647.4110	DOUBLER	
1	1	1	1	8	647.4011	WIPER DEFLECTOR LH	
1	1	1	1	7	647.4010	WIPER DEFLECTOR RH	
1	1	1	1	6	647.3915	DEFLECTOR	
1	1	1	1	5	647.6410	RAIL	
1	1	1	1	4	647.3804	LOWER CUTTER ASSY HIGH	
1	1	1	1	3	647.3803	LOWER CUTTER ASSY LOW	
1	1	1	1	2	647.3802	212 UPPER CUTTER ASSY	
1	1	1	1	1	647.3801	412 UPPER CUTTER ASSY	
3704	3703	3702	3701	FIND #	PART #	DESCRIPTION	MATL SPEC.
3704	3703	3702	3701	FIND #	PART #	DESCRIPTION	MATL SPEC.

QTY

NEXT ASSY (S)

DESIGN DATE: 01-22-09
 DESIGNED BY: J. JACKSON
 CHECKED BY: D. BARBER
 DRAWING NO: 647.3701
 REV: 01-22-09
 (C) 2009 APICAL INDUSTRIES

APICAL INDUSTRIES
 2608 TEMPLE HEIGHTS DR.
 OCEANSIDE, CA. 92056-3512 (760)724-5300

412 CABLE CUTTERS KIT

647.3700

SCALE: NONE

SHEET 1 OF 5

DQA: _____ Date: _____



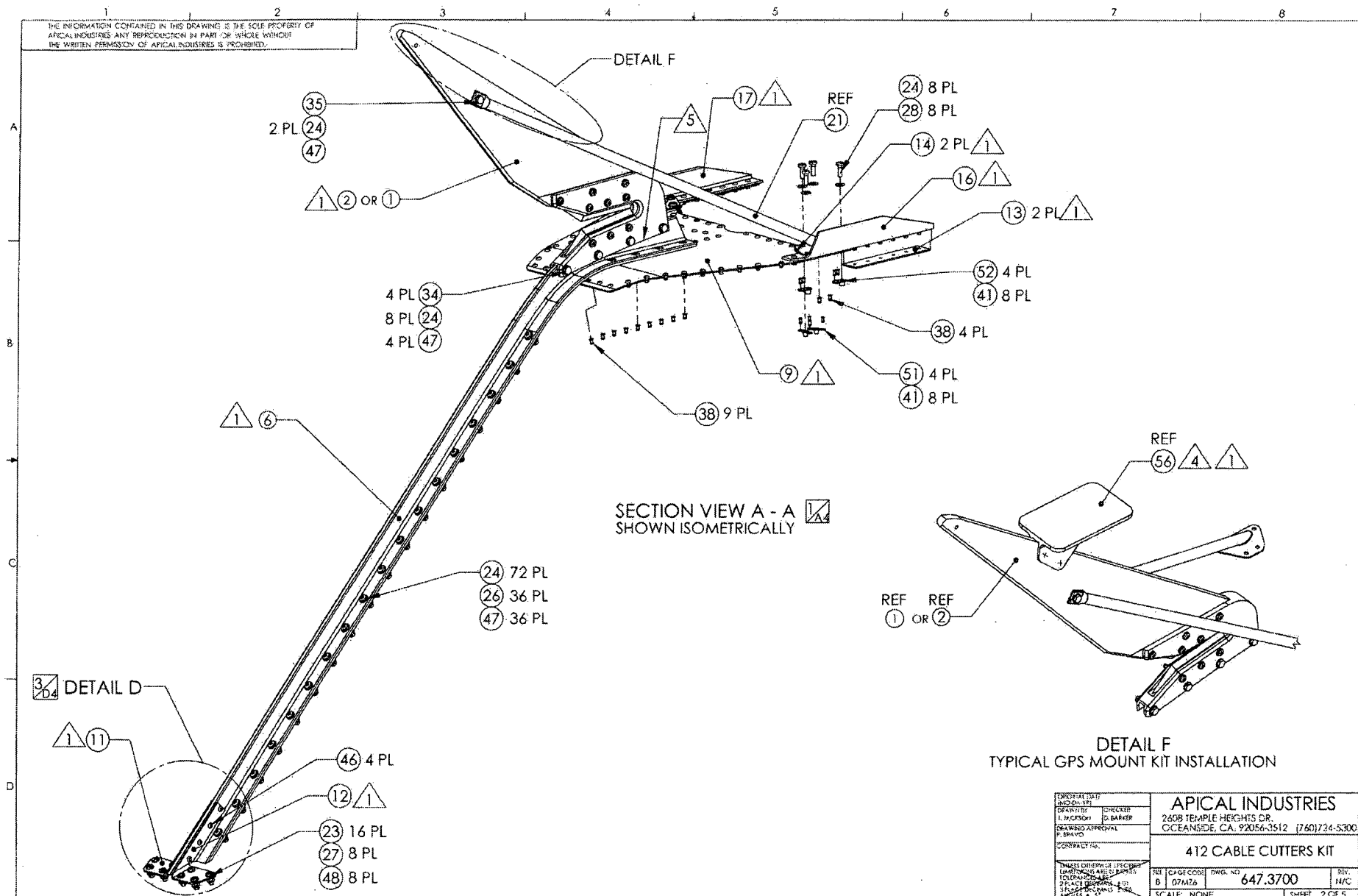
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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APICAL INDUSTRIES	
2608 TEMPLE HEIGHTS DR.	
OCEANSIDE, CA. 92056-3512 (760)734-5300	
412 CABLE CUTTERS KIT	
DATE: 07/17/03	BY: MFC
DESIGNED BY: J. BARKER	CHKD BY: J. BARKER
DRAWING APPROVAL: P. BRADY	
PROJECT NO.:	
THICKNESS: 0.015" (1/64")	SCALE: NONE
UNIT: INCHES	SHEET: 2 OF 3
TOLERANCES: FRACTIONS DECIMALS ANGLES	
1/16 0.0625 90 90	
1/32 0.03125 0.001 0.001	
3/16 0.1875 0.001 0.001	
1/2 0.5000 0.001 0.001	
3/4 0.7500 0.001 0.001	
1 1.0000 0.001 0.001	
1 1/2 1.5000 0.001 0.001	
2 2.0000 0.001 0.001	
3 3.0000 0.001 0.001	
4 4.0000 0.001 0.001	
5 5.0000 0.001 0.001	
6 6.0000 0.001 0.001	
8 8.0000 0.001 0.001	
10 10.0000 0.001 0.001	
12 12.0000 0.001 0.001	
14 14.0000 0.001 0.001	
16 16.0000 0.001 0.001	
18 18.0000 0.001 0.001	
20 20.0000 0.001 0.001	
22 22.0000 0.001 0.001	
24 24.0000 0.001 0.001	
26 26.0000 0.001 0.001	
28 28.0000 0.001 0.001	
30 30.0000 0.001 0.001	
32 32.0000 0.001 0.001	
34 34.0000 0.001 0.001	
36 36.0000 0.001 0.001	
38 38.0000 0.001 0.001	
40 40.0000 0.001 0.001	
42 42.0000 0.001 0.001	
44 44.0000 0.001 0.001	
46 46.0000 0.001 0.001	
48 48.0000 0.001 0.001	
50 50.0000 0.001 0.001	
52 52.0000 0.001 0.001	
54 54.0000 0.001 0.001	
56 56.0000 0.001 0.001	
58 58.0000 0.001 0.001	
60 60.0000 0.001 0.001	
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64 64.0000 0.001 0.001	
66 66.0000 0.001 0.001	
68 68.0000 0.001 0.001	
70 70.0000 0.001 0.001	
72 72.0000 0.001 0.001	
74 74.0000 0.001 0.001	
76 76.0000 0.001 0.001	
78 78.0000 0.001 0.001	
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84 84.0000 0.001 0.001	
86 86.0000 0.001 0.001	
88 88.0000 0.001 0.001	
90 90.0000 0.001 0.001	
92 92.0000 0.001 0.001	
94 94.0000 0.001 0.001	
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98 98.0000 0.001 0.001	
100 100.0000 0.001 0.001	

DQA: _____ Date: _____



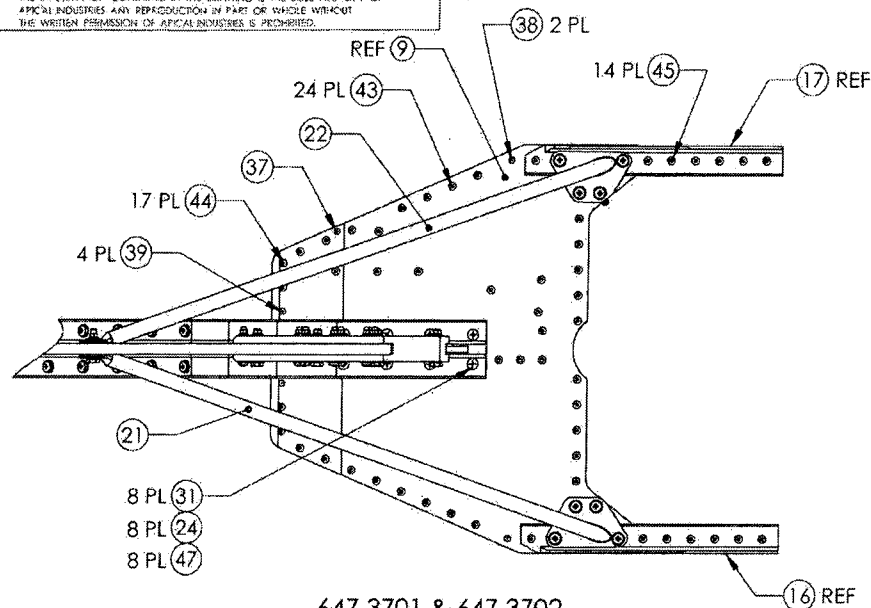
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

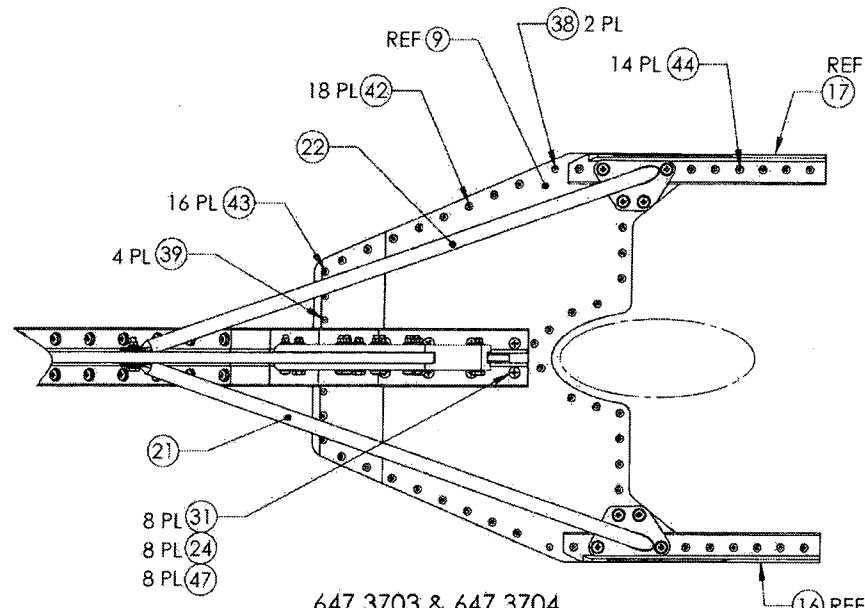
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval				
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____			
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

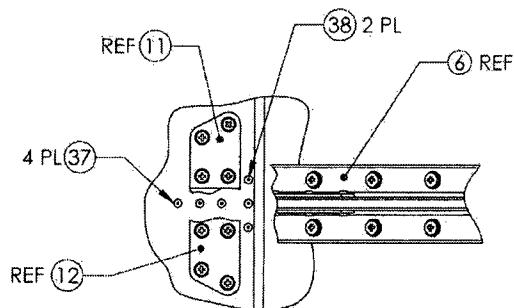
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647.3701 & 647.3702
UPPER CUTTER ASSEMBLY
TOP VIEW



647.3703 & 647.3704
UPPER CUTTER ASSEMBLY
TOP VIEW



DETAIL D
TOP VIEW
BROKEN OUT FOR CLARITY

ORIGINAL DATE AND AMEND		APICAL INDUSTRIES	
DESIGNED BY J. JACOBSEN		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY D. BARBER		412 CABLE CUTTERS KIT	
DRAWING APPROVAL B. BRAVO		REV. C	DATE: 647.3700
UNREVIEWED		REV. B	DATE: 07/11/26
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS ARE 1/16, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8 DECIMALS ARE .1, .2, .3, .4, .5, .6, .7, .8, .9 TOLERANCES ARE .005, .010, .015, .020, .030, .040, .050, .060, .070, .080, .090, .100, .125, .150, .175, .200, .250, .300, .375, .500, .625, .750, .875, 1.000, 1.250, 1.500, 1.750, 2.000, 2.500, 3.000, 3.500, 4.000, 4.500, 5.000, 5.500, 6.000, 6.500, 7.000, 7.500, 8.000, 8.500, 9.000, 9.500, 10.000		SCALE: NONE	SHEET 3 OF 5

DQA: _____ Date: _____



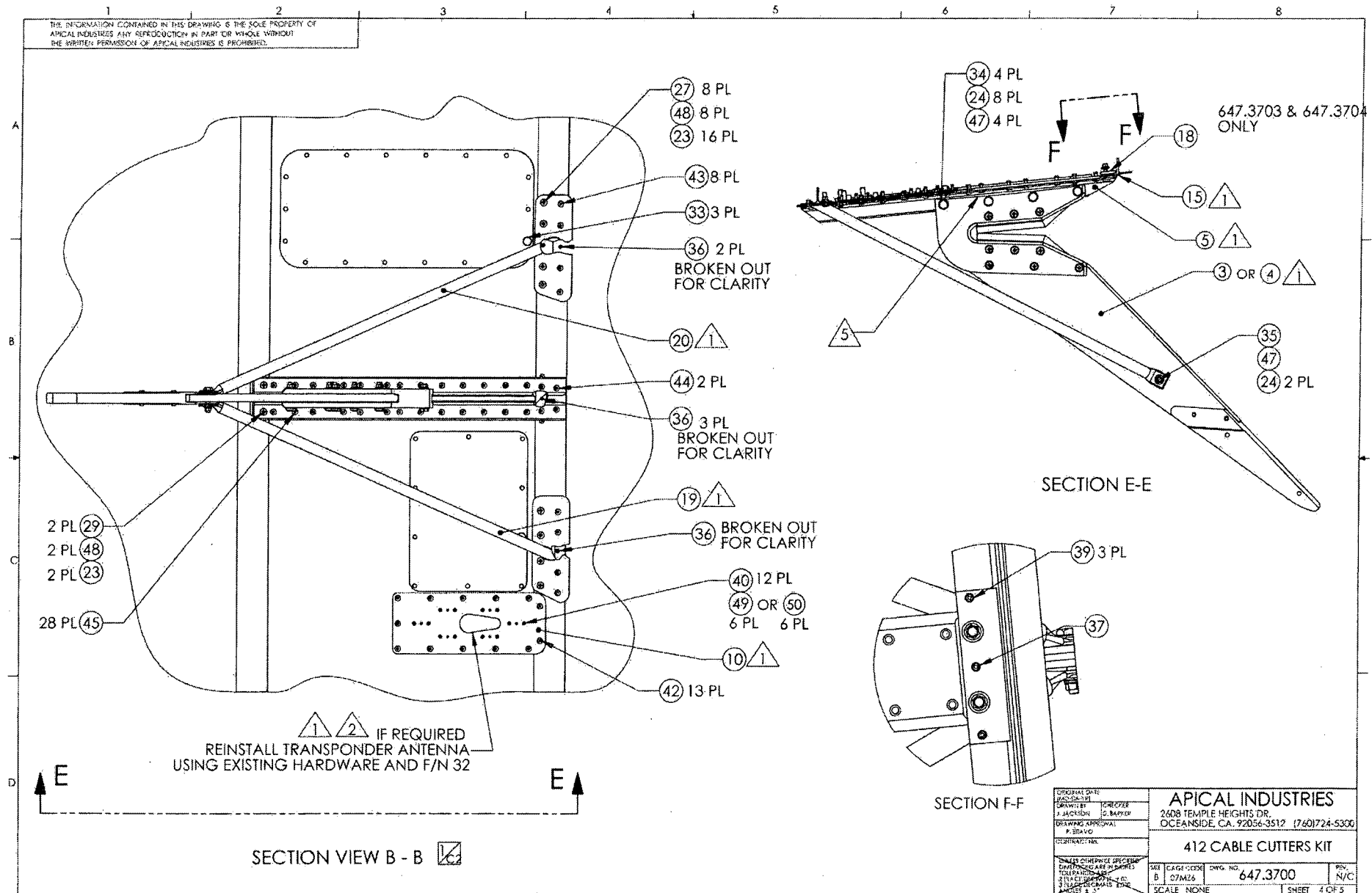
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

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ORIGINAL DATE 1990-03-01		APICAL INDUSTRIES	
DRAWN BY J. JACKSON		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY D. BARRY		412 CABLE CUTTERS KIT	
DRAWING APPROVAL P. BOVINO		SEE CAGE CODE DWG. NO. 647.3700	
DATE 1990-03-01		SCALE NONE	
SHEET 4 OF 5		REV. N/C	

DQA: _____ Date: _____



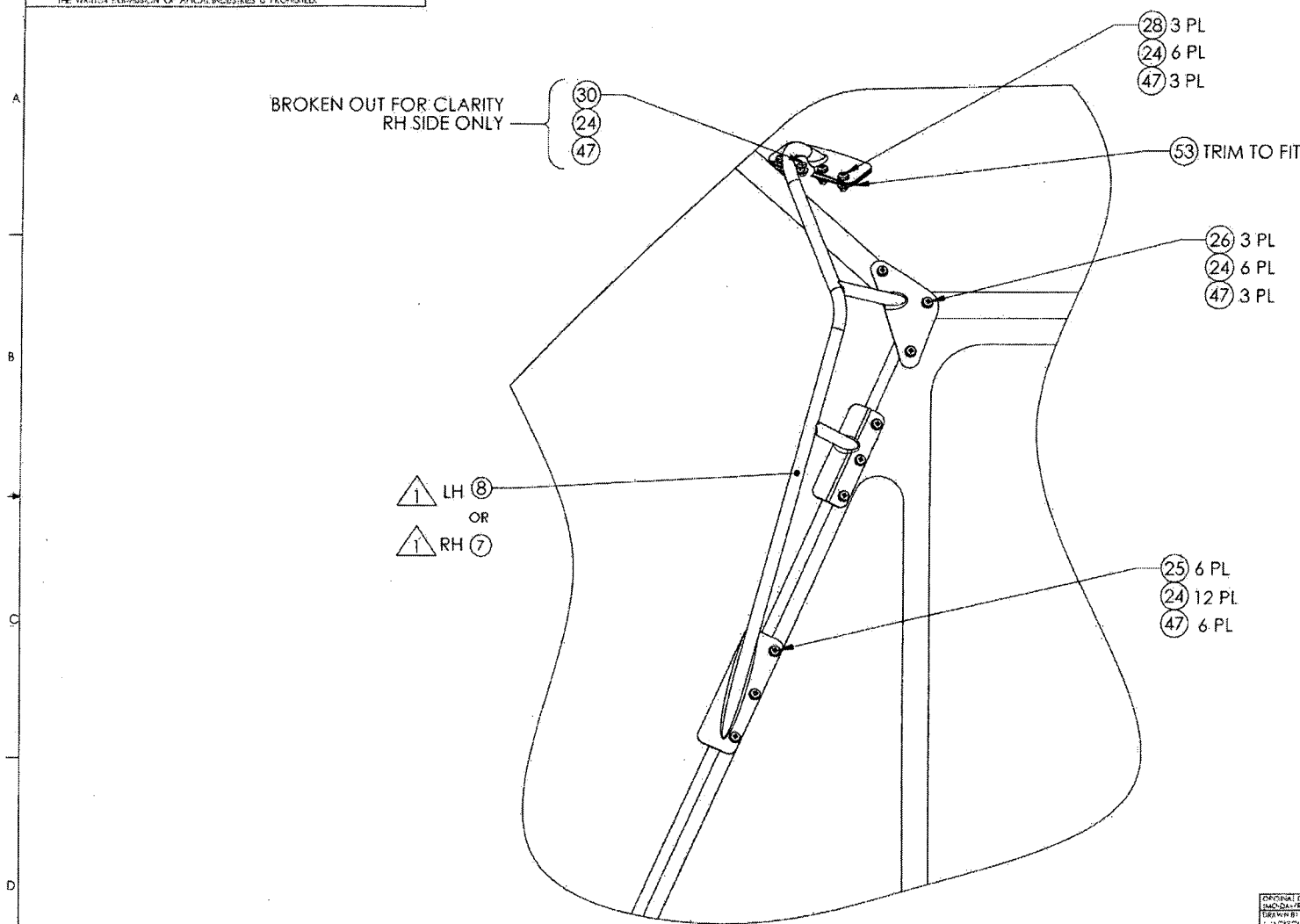
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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DETAIL C 182
LH SHOWN, RH OPPOSITE
2 PL

ORIGINAL DATE 10/20/2016		APICAL INDUSTRIES	
DESIGNED BY J. JACKSON		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRADY		412 CABLE CUTTERS KIT	
CHECKED BY J. JACKSON		REV. 1	N/C
ENGINEER J. JACKSON		SCALE NONE	SHEET 5 OF 5

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Monday, June 12, 2017 1:35:40 PM

162776

Item ID: 647.3701

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: 412 Cable Cutter System, Standard

Start Date: 6/13/2017 **Start Qty:** 1.00

* 1 *

Cust Item ID:

Required Date: 6/23/2017 **Req'd Qty:** 1.00

*** 1 ***

Customer:

Reference:

Run Start

NR1

Approvals:

Process Plan:

Date **JUN 12 2017**

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

[illegible]

United States Of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SR02289LA

This Certificate issued to

Apical Industries, Inc. dba Dart Aerospace
3030 Enterprise Court, Suite A
Vista, California 92081

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 29 and CAR 7 of the Federal Aviation Regulations.*

Original Product Type Certificate Number:

Make:

Model:

* See attached FAA Approved Model List (AML)
Number SR02289LA for list of approved aircraft
models and applicable airworthiness regulations.

Description of Type Design Change: Installation of Apical Industries, Inc. Cable Cutters Kit in accordance with FAA approved Apical Industries, Inc. Master Document List MD412-101, Revision A, dated December 23, 2009, or later FAA approved revision.

Limitations and Conditions: This approval requires the inspections and overhaul schedules to be performed as mandated by Apical Industries, Inc.'s Instructions for Continued Airworthiness, ICA412-101, Revision N/C, dated January 5, 2010, or later FAA accepted revision.

This installation should not be incorporated in any aircraft unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the airworthiness of the aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of this permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: September 29, 2009

Date received: August 7, 2014

Date of issuance: April 27, 2010

Date amended:

By direction of the Administrator



Haifa Haj-Eid
(Signature)

Haifa Haj-Eid
Supervisor, Technical and Administrative
Support Staff
Los Angeles Aircraft Certification Office

(Title)

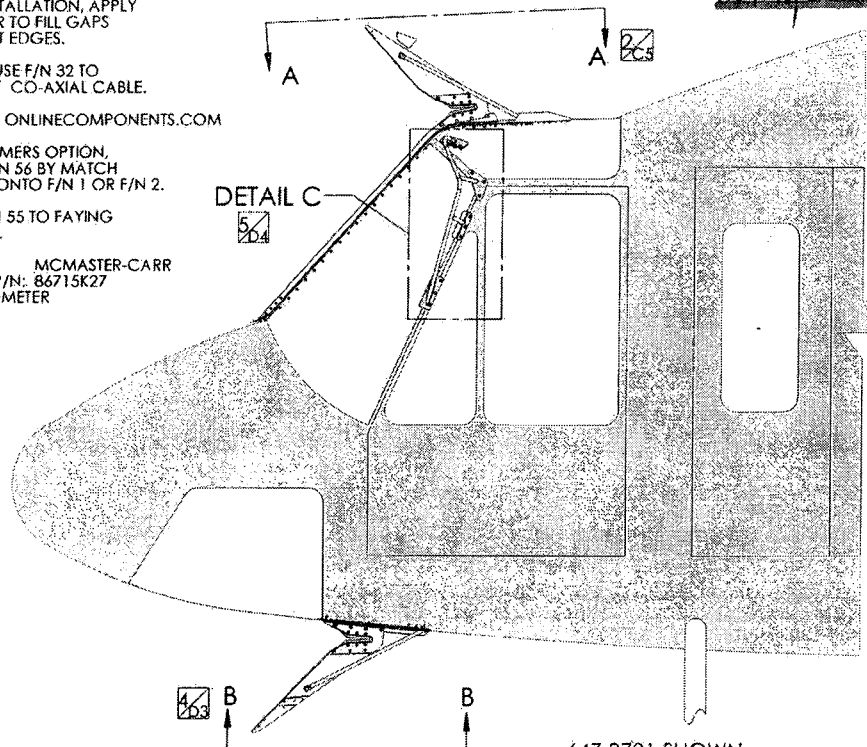
Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

REFERENCE ONLY

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 AFTER INSTALLATION, APPLY F/N 54 A/R TO FILL GAPS AND FILLET EDGES.
- 2 IF REQD. USE F/N 32 TO CONNECT CO-AXIAL CABLE.
- 3 VENDOR : ONLINECOMPONENTS.COM
- 4 AT CUSTOMERS OPTION, INSTALL F/N 56 BY MATCH DRILLING ONTO F/N 1 OR F/N 2.
- 5 APPLY F/N 55 TO FAYING SURFACES.
- 6 VENDOR : MCMMASTER-CARR
VENDOR P/N: 86715K27
60A DUROMETER



647.3701 SHOWN

REF	REF	REF	REF	56	647.5701	GPS MOUNT KIT		
A/R	A/R	A/R	A/R	55	601.2045	RTV	LOCITE 998	△
A/R	A/R	A/R	A/R	54	601*012	SEALCANT	PERMITS	△
				53	601*3083	ADHESIVE RUBBER SEAL	CLASS II	△
				52	601.2957	NUTPLATE	ML-P-3005	
				51	600.0795	NUTPLATE	MS2107113	
				50	601.3066	NUTPLATE	MS21047-3	
				49	601.3065	NUTPLATE	MS2104700	
				48	601.2973	LOCKNUT	MS21042-38	
				47	601.2943	LOCKNUT	MS21042-3	
				46	601.2364	CHEERY RIVET	CR321-4-B	
				45	601.1183	CHEERY RIVET	CR321-4-5	
				44	601.1915	CHEERY RIVET	CR321-4-4	
				43	601.0790	CHEERY RIVET	CR321-4-3	
				42	601.0139	CHEERY RIVET	CR315-4-2	
3704	3703	3702	3701	FINO	PART #	DESCRIPTION	MATL	SPEC

UNINCORPORATED ECN(S)

01728, 04845, 04881

REVISIONS			
REV.	DESCRIPTION	DATE	APPROV.
	LAST PROTECTIVE REVISION, WP1		NAC
NAC	INITIAL RELEASE	09-21-09	P. PAVAT

16	16	16	16	41	601.2207	NUTPLATE RIVET	CCW26-55-3-003	
12	12	12	12	40	601.2491	NUTPLATE RIVET	CCW26-55-3-004	
7	7	4	4	39	601.1066	CHERRY RIVET	CR3212-4-4	
17	17	17	17	38	601.1065	CHERRY RIVET	CR3212-4-3	
5	5	6	6	37	601.1604	CHERRY RIVET	CR3212-4-2	
6	6	6	6	36	601.3082	CHERRY RIVET	CR3212-4-1	
2	2	2	2	35	801.1674	BOLT	ANQ-10A	
8	8	8	8	34	601.2826	BOLT	ANQ-11A	
3	3	3	3	33	601.2823	BOLT	ANQ-4A	
1	1	1	1	32	601.3073	CONNECTOR	DB2-440	
8	8	8	8	31	601.2419	SCREW	MS2456-MS3	
1	1	1	1	30	601.3070	SCREW	MS2459-4-549	
2	2	2	2	29	601.2893	SCREW	MS2703P-08-1	
14	14	14	14	28	601.3069	SCREW	MS2703P-1-09	
16	16	16	16	27	601.2263	SCREW	MS2703P-08-08	
42	42	42	42	26	601.1365	SCREW	MS2703P-1-10	
12	12	12	12	25	601.2198	SCREW	MS2703P-1-07	
157	157	157	157	24	601.1607	WASHER	NAS1149FMS2P	
34	34	34	34	23	601.2764	WASHER	NAS1149FMS2P	
1	1	1	1	22	647.4313	RH UPPER STRUT		
1	1	1	1	21	647.4312	LH UPPER STRUT		
1	1	1	1	20	647.4310	LH LOWER STRUT		
1	1	1	1	19	647.4311	RH LOWER STRUT		
1	1	1	1	18	647.4212	PLATE		
1	1	1	1	17	647.4211	BRACKET RH		
1	1	1	1	16	647.4210	BRACKET LH		
1	1	1	1	15	647.4116	SHIM		
2	2	2	2	14	647.4115	SHIM		
2	2	2	2	13	647.4114	SHIM		
1	1	1	1	12	647.8113	CLIP		
1	1	1	1	11	647.4112	CLIP		
1	1	1	1	10	647.4111	DOUBLER		
1	1	1	1	9	647.4110	DOUBLER		
1	1	1	1	8	647.4011	WIPER DEFLECTOR LH		
1	1	1	1	7	647.4010	WIPER DEFLECTOR RH		
1	1	1	1	6	647.3915	DEFLECTOR		
1	1	1	1	5	647.4410	RAIL		
1	1	1	1	4	647.3804	LOWER CUTTER ASSY HIGH		
1	1	1	1	3	647.3803	LOWER CUTTER ASSY LOW		
1	1	1	1	2	647.3802	212 UPPER CUTTER ASSY		
1	1	1	1	1	647.3801	412 UPPER CUTTER ASSY		
					647.3704	204, 205, 212 CABLE CUTTERS KIT HIGH		
					647.3703	204, 205, 212 CABLE CUTTERS KIT LOW		
					647.3702	412 CABLE CUTTERS KIT HIGH		
					647.3701	412 CABLE CUTTERS KIT LOW		
3704	3703	3702	3701	FIND	PART #	DESCRIPTION	MATL	SPEC

QTY		PARTS LIST	
NEXT ASSY [5]		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
ORIGINAL DATE (M/D/Y) 09-29-07 DRAWN BY J. JACKSON INCHES PER FOOT 1.0000 09-29-07 (CONTINUED) NO		CHECKED D. BAYLER 	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES .0005 .0005 .0005		SEE CAD COLOR 5 07H16 SCALE NONE DWG. NO. 647.3700 1 QUOTE 1 PER	